

REMARKS

Claim 6 has been canceled and Claims 5, 7, 8, and 11-13 rewritten to more definitely set forth the invention and obviate the rejection. Support for new Claims 14-17 can be found in the original claims , and support for new claim 18 can be found in the Specification on page 29, lines 15-18. Support for new claims 19 and 20 can be found in the Specification on page 14, line 17; page 19, lines 3-10; and page 23, lines 16-18. Obvious typographical errors in Table 1' have been corrected. Claims 1-5 and 7-20 are in the application.

Reconsideration is respectfully requested of the rejection of Claims 5-8 and 11-13 under 35 U.S.C. § 112, second paragraph, as being indefinite in the recitation of "the polarizer" and "the thermoplastic saturated norbornene-type resin". The claims have been amended to obviate this rejection and it is therefore believed that the rejection is moot. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 1-2 and 6-7 under 35 U.S.C. § 102(b) as anticipated by Nippon Zeon.

In the present invention such as called for in Claims 1 and 2, a polarizing plate protection film has been preformed which consists of a thermoplastic saturated norbornene-type resin film on which a polyurethane resin layer has been formed. Therefore, in the present invention the polyurethane resin layer has been preformed so that it can then be laminated onto the underlying polarizer film.

It is respectfully submitted that there is no disclosure whatever in the Nippon Zeon reference

DOCKET NO. TOS-146-USA-PCT

relied upon by the Examiner of a polarizing plate protection film consisting of a thermoplastic saturated norbornene-type resin film having formed thereon a polyurethane resin layer. On the contrary, that teaching or suggestion comes only from the present application and constitutes an important element or aspect of the present invention.

Apparently the Examiner equates the use of a polyurethane adhesive as used in Nippon Zeon to the formation of a polyurethane resin layer as in the present invention. It is respectfully submitted that the use of an adhesive to bond two surfaces may not form a discrete and continuous resin layer such as the polyurethane film of the present invention (see, for example, Specification, page 14, line 17) where there is a description of the polyurethane adhesive resin as forming a film on a thermoplastic saturated norbornene-type resin film.

It is respectfully submitted that there is no suggestion in the Nippon Zeon reference or any other reference of record which would suggest that instead of using a polyurethane adhesive, a continuous and discreet polyurethane resin layer or film could be used in bonding a thermoplastic saturated norbornene-type resin film onto a polyvinyl alcohol polarizer. Failing such a disclosure, it is respectfully submitted that there is no basis for concluding that the adhesive of Nippon Zeon is equivalent in any sense of the word to the discreet and continuous polyurethane film of the present invention.

Moreover, there is no disclosure whatever in the Nippon Zeon reference of the use of a two-component type of polyurethane adhesive having as a main agent a polyester resin to bond a polyvinyl alcohol polarizer to a thermoplastic saturated norbornene-type resin film as now called for in claim 7.

**DOCKET NO. TOS-146-USA-PCT**

Further, there is no disclosure in Nippon Zeon of the use of a water-type polyurethane adhesive for this same purpose as now called for in claim 8. On the contrary, the inventions in claims 7 and 8 herein are disclosed only in the present application, and constitute important elements or aspects of the present inventions. It is therefore respectfully submitted that the Examiner would be justified in no longer maintaining this rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 1, 2 and 6 under 35 U.S.C. § 102(b) as being anticipated by Shinohara, et al.

The Shinohara, et al. reference like the Nippon Zeon reference discussed above, fails to disclose a polarizing plate protection film consisting of a thermoplastic saturated norbornene-type resin film on which a polyurethane resin layer has been formed.

With respect to the Examiner's statements in paragraph 10, it is believed that Example 1 discloses bonding two sheets of a transparent conductive film with a transparent conductive layer being positioned face to face and caused to adhere by a spacer using an adhesive (Example 1, column 17, lines 21-27).

The Examiner's attention is directed to the fact that the transparent conductive films were prepared in Reference Example 1 which is referred to in column 15, lines 15-30. This transparent conductive film does not appear to be the norbornene-type resin layers as referred to by the Examiner.

Actually, in Reference Example 2, it is believed there is a disclosure of a polyvinyl alcohol polarizer attached to the film by use of an acrylic resin.

**DOCKET NO. TOS-146-USA-PCT**

With regard to the Examiner's reliance on the statements in column 9, lines 11-22 of the Shinohara, et al. reference, it is respectfully submitted that neither the disclosure in this portion of Shinohara, et al. nor elsewhere discloses the equivalency of the use of a polyurethane resin solution to the formation of a polyurethane resin layer or film on a norbornene-type resin protective film. On the contrary, the disclosure in column 9, lines 11-22, only sets forth equally the number of suitable adhesives or glues which could be used for laminating a protective film of a specific polymer over a polarizing element.

Dry laminate adhesives, such as a mixture of polyurethane resin solution is disclosed. However, no "wet lamination" or "the main agent consisting of polyester resin" or "water type" is disclosed.

In the rejection, the Examiner relies upon Reference Example 2 of Shinohara, et al. for the ostensible proposition that polyurethane resin solutions (polyurethane adhesives) are equally suitable as various other adhesives such as acrylic resins. It is respectfully submitted that the test data set forth in Table 1' on page 59 of the Specification clearly demonstrates that acrylic resin adhesives are not equally suitable as the polyurethane adhesives of the present invention.

In Table 1', Examples 1'-5', as described in the Specification on pages 51-56, bond a polyvinyl alcohol polarizer to a thermoplastic saturated norbornene-type resin film (Examples 1-3), a polysulfone film in Example 4', and a thermoplastic saturated norbornene-type resin film in Example 5'.

In Comparative Example 1', a polyvinyl alcohol polarizer was bonded with an acrylic adhesive layer to a thermoplastic saturated norbornene-type resin film. The products produced in

**DOCKET NO. TOS-146-USA-PCT**

Examples 1'-5' and Comparative Example 1' were then tested at 90°C under dry conditions for 500 hours to evaluate the degree of polarization, the color difference, and appearance. They were also tested at 60°C in 95% relative humidity for 250 hours to also evaluate the degree of polarization, color difference and appearance. These tests which are described in the Specification on pages 55-58, show that for the Examples 1'-5', the degree of polarization and the color differences are stable even after the durability tests, and that there is no abnormality in their appearance.

In the case of Comparative Example 1', a large amount of foam was observed in a dry test, and peeling was observed at the lower temperature of 60°C and 95% relative humidity.

Moreover, the degree of polarization shown in these tables was significantly better in Examples 1'-5' using the polyurethane adhesive than in Comparative Example 1' using an acrylic adhesive. Also, there was a considerably greater color difference in the Comparative Example 1' sample as compared to the Examples 1'-5' using the polyurethane adhesive. It is respectfully submitted that these tests summarized in Table 1' clearly demonstrate that other types of adhesives such as for example an acrylic resin are not equally suitable to the polyurethane adhesive of the present invention.

Moreover, it is respectfully submitted that Table 1' clearly demonstrates the unexpected results obtained using the polyurethane adhesives of the present invention as compared to the teachings of the Shinohara, et al. and Nippon Zeon references which lists various adhesives as being equally suitable. The test data in the present application actually demonstrates the contrary to be true since the invention called for in the claims herein produces clear and unexpected results as compared to a similar laminate bonded with an acrylic adhesive. For these reasons, it is respectfully submitted

**DOCKET NO. TOS-146-USA-PCT**

that both the Shinohara, et al. and Nippon Zeon references actually teach away from the present invention. This is especially true since neither of these references disclose the use of a polyester main agent in the polyurethane adhesive, and they do not use polyurethane adhesives in their examples. Thus, the broad disclosure of the use of many types of adhesives in Shinohara, et al. (Column 9, lines 11-22), and Nippon Zeon (0045) of many types of adhesives clearly teaches away from the invention called for in the present application in which it was unexpectedly discovered that the use of the particular urethane adhesives called for herein produces unexpectedly superior results.

Moreover, the Examiner's attention is directed to the fact that in the Shinohara, et al. reference, Reference Example 2(c), discloses the preparation of a polarizer using an acrylic resin adhesive and not a urethane adhesive. In view of the test data in Table 1', it is respectfully submitted that the polarizer called for in the claims herein using a polyurethane adhesive clearly distinguishes from the polarizer of Shinohara, et al.

It is therefore respectfully submitted that neither Shinohara, et al. nor any other reference of record discloses a polarizing plate constructed according to the present invention. Consequently, the Examiner would be justified in no longer maintaining this rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 3, 4 and 8-10 under 35 U.S.C. § 103(a) as being unpatentable over Nippon Zeon in view of Oertel.

The Nippon Zeon reference is discussed above.

It is respectfully submitted that the Examiner's reliance upon the secondary reference of Oertel is misplaced. Neither the Oertel nor the Nippon Zeon reference disclose a polyurethane resin

**DOCKET NO. TOS-146-USA-PCT**

layer or film formed on a thermoplastic saturated norbornene-type resin film to form a polarizing plate protection film. Moreover, the Oertel reference fails to disclose any equivalency between the use of the polyurethane adhesives disclosed therein and the polyurethane resin layer or film of the present invention.

In order for a combination of references to render an invention obvious, it must be obvious that their teachings can be combined. In re Avery, 518 F2d 1228, 186 USPQ 161 (CCPA, 1975). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. In re Geiger, 2 USPQ 2d 1276 (CAFC, 1987).

In the present case, there is no teaching, suggestion or incentive in either the Nippon Zeon or Oertel references that they can be combined in the manner suggested by the Examiner to somehow arrive at a polarizing plate protective film having a polyurethane layer or film on a thermoplastic saturated norbornene-type resin film. In this regard, it is respectfully submitted that the Oertel reference fails to disclose the desirability of forming a polyurethane resin layer or film on the thermoplastic saturated norbornene-type resin film instead of merely using a liquid polyurethane adhesive. This is especially true since Oertel appears to suggest the use of wet bonding as well as aqueous polyurethane dispersion adhesives.

Naturally, if one were to use wet bonding of aqueous polyurethane dispersions, that would not be equivalent to actually forming a layer of a polyurethane resin layer or film on the thermoplastic saturated norbornene-type resin film. For this reason, it is respectfully submitted that the rejection fails, as a matter of law, in view of the above authorities. For these reasons, it is

**DOCKET NO. TOS-146-USA-PCT**

respectfully submitted that the Examiner would be justified in no longer maintaining this rejection.

Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 3, 4 and 7-10 under 35 U.S.C. § 103(a) as being unpatentable over Shinohara, et al. in view of Oertel.

The Shinohara, et al. and Oertel references are discussed above.

It is respectfully submitted that neither the Oertel nor the Shinohara, et al. reference disclose or suggest a polarizing plate protecting film consisting of a thermoplastic saturated norbornene-type resin film on which a polyurethane resin layer or film is formed.

Moreover, it is respectfully submitted that the use of wet bonding of an aqueous polyurethane dispersion would not lead one of ordinary skill in the art to form a discreet and continuous polyurethane resin layer or film on the thermoplastic saturated norbornene-type resin film. On the contrary, that teaching or suggestion comes only from the present application and constitutes an important element or aspect of the present invention.

Failing the suggestion of forming this polyurethane resin layer or film, it is respectfully submitted that the Examiner's combination of references fail to anticipate or render unpatentable obvious the claimed subject matter in view of the above authorities. Withdrawal of the rejection is accordingly respectfully requested.

Respecting Claims 5 and 11-13, these claims have been rewritten to include all of the limitations of the base claim and any intervening claim, it being understood that these claims would be allowable if so written. Allowance of Claims 5 and 11-13 is accordingly respectfully requested.

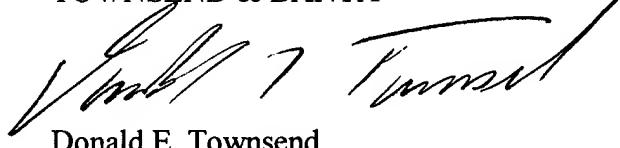
In view of the foregoing, it is respectfully submitted that the application is now in condition

**DOCKET NO. TOS-146-USA-PCT**

for allowance, and early action and allowance thereof is accordingly respectfully requested. In the event there is any reason why the application cannot be allowed at the present time, it is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems.

Respectfully submitted

TOWNSEND & BANTA



Donald E. Townsend  
Reg. No. 22,069

TOWNSEND & BANTA  
1225 Eye Street, N.W.  
Suite 500, #50028  
Washington, D.C. 20005  
(202) 682-4727

Date: March 28, 2003

**MARKED-UP VERSION OF AMENDED CLAIMS 5, 7, 8, 11, 12 AND 13  
AND TABLE 1' OF THE SPECIFICATION**

Table 1'

	90°C. dry x 500Hr			60°C. 95%RH x 250Hr		
	Degree of polarization <sup>1)</sup> (%)	Color difference	Appearance	Degree of polarization <sup>1)</sup> (%)	Color difference	Appearance
Example 1'	99.7	0.39	No abnormality	97.3	0.51	No abnormality
Example 2'	99.3	0.27	No abnormality	96.9	0.55	No abnormality
Example 3'	99.7	0.48	No abnormality	95.7	0.65	No abnormality
Example 4'	99.3	0.40	No abnormality	96.0	0.62	No abnormality
Example 5'	99.7	0.53	No abnormality	99.4	0.40	No abnormality
Comparative example 1'	97.0	0.91	A large amount of foam	99.0	4.0	Peeling observed

a) The initial value is 99%.

5. (Twice Amended) A polarizing plate having on at least one side thereof a polarizing plate protection film, [wherein the polarizing plate protection film of claim 1 is] said polarizing plate protection film consisting of a thermoplastic saturated norbornene-type resin film on which a polyurethane film resin layer is formed, said polarizing plate protection film being bonded onto at

DOCKET NO. TOS-146-USA-PCT

least one side of the polarizer by wet lamination using a polyvinyl alcohol-type adhesive.

7. (Amended) A polarizing plate wherein a polyvinyl alcohol polarizer and a protection film which consists of a thermoplastic saturated norbornene-type resin are bonded together with a polyurethane adhesive, [The polarizing plate of claim 6 wherein] said polyurethane adhesive [is] being a two component type and the main agent [consists] consisting of a polyester resin.

8. (Amended) A polarizing plate wherein a polyvinyl alcohol polarizer and a protection film which consists of a thermoplastic saturated norbornene-type resin are bonded together with a polyurethane adhesive [The polarizing plate of claim 6 in which], said polyurethane adhesive [consists] consisting of a water-type polyurethane adhesive.

11. (Twice Amended) A polarizing plate protection film wherein a polyurethane resin layer and a polyvinyl alcohol layer are formed in this order on a thermoplastic saturated norbornene-type resin film [A polarizing plate wherein the polarizing plate protection film of claim 2], said polarizing plate protection film [is] being bonded onto at least one side of [the] a polarizer by wet lamination using a polyvinyl alcohol-type adhesive.

12. (Twice Amended) A polarizing plate protection film consisting of a thermoplastic saturated norbornene-type resin film on which a polyurethane resin layer is formed, said polyurethane resin layer consisting of a polyurethane adhesive which contains modified polyisocyanate [A polarizing plate wherein the polarizing plate protection film of claim 3], said polarizing plate protection film being [is] bonded onto at least one side of [the] a polarizer by wet lamination using a polyvinyl alcohol-type adhesive.

13. (Twice Amended) A polarizing plate protection film consisting of a thermoplastic

**DOCKET NO. TOS-146-USA-PCT**

saturated norbornene-type resin film on which a polyurethane resin layer is formed, said  
polyurethane resin layer consisting of a water-type polyurethane adhesive [A polarizing plate  
wherein the polarizing plate protection film of claim 4 is], said polarizing plate protection film being  
[is] bonded onto at least one side of the polarizer by wet lamination using a polyvinyl alcohol-type  
adhesive.